

The RCC Weekly

VOLUME 1, ISSUE 17
APRIL 6, 2012

College Bond Funds

President Gomes announced this week that the College will receive \$20,742,970 in bond funds from the Massachusetts Department of Capital Asset Management (DCAM) for major renovation and modernization projects at the College. These funds will enable the College to move forward with the plans for the proposed Life Sciences Institute, as well as to complete some badly-needed renovations on campus. Once DCAM completes its needs analysis for campus improvements, the President will be able to provide the College with more specific information.



COLUMBUS AVENUE ELEVATION

Click [HERE](#) to read the article in on boston.com:
"Roxbury Community College to use \$20.7m in state bonds for life sciences center, other renovations"

Mark Your Calendar

- April 11: Job , Internship & Volunteer Fair (3-207)
- April 12: Free Health Fair (page 2)
- April 12: Movie Premier at RCC (page 4)
- April 13: CAP (page 2)
- April 16: Patriot's Day Holiday
- April 17: Pre-Registration for Summer I & II begins
- April 23-27: Adjunct Faculty Evaluations

Conference Presentation

The teaching of academic skills is one of the most important things that community colleges do. It is a direct response to support open admission and student success.

On March 18-21, 2012 Mark Garth and 'Eryn' Ryan Clavelli attended the Teaching Academic Success Skills Conference (TASS) in Fort Lauderdale, Florida. Their presentation, **"Negotiating Identity in the First-Year Experience,"** offered insights from Roxbury Community College's first-year experience course, ACS 102: The College Experience that affords RCC students an opportunity to read, discuss, and learn by organizing works around a space where education, core institutional values and life-long learning invoke special training and dispositions that lead to student success. Using institutional retention data and numbers representative of the increasing percentage of students taking The College Experience in their first semester, the presenters shared RCC's curricular and instructional efforts to foster persistence and retention through the first-year seminar.



The 23rd annual TASS conference was sponsored by Northern Essex Community College, Haverhill, MA and Broward College, Fort Lauderdale, FL.

SI Grant

Thanks to a \$25,000 grant from the State Street Foundation, RCC is pleased to be able to continue our Supplemental Instruction (SI) program. SI is an academic support program that utilizes peer-assisted study groups to help students with traditionally difficult academic courses. SI sessions are led by an SI Leader who has successfully passed the course to which they are assigned. SI Leaders attend all classes, take notes, communicate and provide timely feedback to the instructor concerning students' progress. The SI Leader facilitates twice weekly sessions, giving students the opportunity to compare notes, discuss reading assignments, ask questions, develop organizational skills, and prepare for examinations. This semester 8 SI Leaders were assigned to 4 sections of Basic Math and 4 sections of Introductory Algebra. Professor JoJo Jacobson is serving as the Supervisor for the SI Leaders.

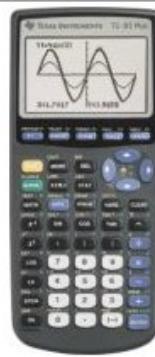


more news on page 2

Ten Programs for TI-83

Have you ever thought of self-publishing your research? With digital technology at our finger tips, this is key strokes away. On April 2, 2012, Mathematics Professor Eduard G. Samandarov offered the RCC campus the 2012 edition of his booklet, *Ten Programs for TI-83*. An outgrowth of research initiated under the auspices of Title III in spring and fall 2011 while participating in Getting Results I, the booklet offers faculty and students hands-on applications using the graphing calculator. Eduard explained that "using computational tools helps students graph and solve mathematics problems of different levels. They help students solve complicated computations in simple form." The set of ten programs offers a base for students to become more competent in solving problems. There are many other problems in the different levels of mathematics and physics where students can create their own programs with interesting applications.

The booklet will be housed on RCC's Moodle site. Roxbury Community College's Mathematics Department, as is the case with most colleges, uses the TI-83 graphing calculator to create opportunities, which effectively helps students be more successful in a variety of mathematics classes.



Health Fair

Free heart disease, HIV, and dental screenings, and health information provided by Brigham and Women's Hospital Cardiovascular Wellness Services.

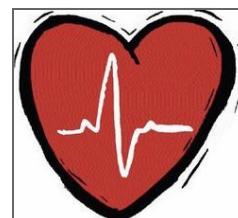
When:

Thursday, April 12 10am-2pm

Where:

RCC Cafeteria
Building 4, 2nd floor

Free Counseling. Free Giveaways



CALIFORNIA ACCELERATION PROJECT

In support of campus efforts to address the challenges associated with students completing developmental education courses, the Massachusetts Department of Higher Education is co-sponsoring a series of focused meetings on this topic as part of the **Vision Project's Graduation and Student Success** agenda. The first meeting was held in December at Greenfield Community College, where nearly 100 chief academic officers, faculty, and administrators from all segments gathered to hear about the latest research and best practices as well as to speak with one another about the opportunities and challenges associated with accelerating developmental education. Based upon the feedback from the evaluations, the participants found the meeting to be tremendously thought-provoking and useful.

The second meeting will be held on Friday, April 13, from 10AM to 3PM at Mount Wachusett Community College. A complimentary continental breakfast and lunch will be provided to all participants.

Faculty and staff are asked to register [online](#) no later than Friday, April 6. Community colleges are invited to send up to 12 individuals from each campus.

PRESENTERS

Katie Hern and Myra Snell co-authored the widely circulated article, "Exponential Attrition and the Promise of Acceleration in Developmental English and Math" (click [HERE](#) to read article.) Together, they lead the [California Acceleration Project](#), which supports faculty from the state's 112 community colleges to redesign their English and Math curricula to increase student completion. Their work has been spotlighted by the national reform organizations Complete College America, Getting Past Go, and the Developmental Education Initiative, and they are regularly invited to speak on acceleration at community college gatherings nationwide.

Katie Hern, Ed.D., is an English Instructor at Chabot College and has conducted extensive research into her department's longstanding accelerated developmental course.

Myra Snell is professor of Mathematics at Los Medanos College and creator of Path2Stats, the first pre-Statistics course in the country to provide an open-access, one-semester alternative to the traditional multi-level developmental algebra sequence.

NESS Awardee

Schaneque Barrows, from Professor Kimberly Stieglitz's SCI282 Research Techniques class, won the Ruth and William Silen Award at the New England Science Symposium (NESS) conference for her poster presentation (see below). The event took place at the Harvard Medical School on Sunday, April 1st. Click [HERE](#) to visit the conference website

The Ruth and William Silen, M.D. Awards recognize participants who deliver outstanding oral presentations and who create exceptional scientific posters.

Renee Keyes also presented a VERY impressive highly technical poster. She should be commended for all her hard work.

New England Science Symposium

Sunday, April 1, 2012
The Joseph B. Martin Conference Center at Harvard Medical School
77 Avenue Louis Pasteur, Boston, Massachusetts

The New England Science Symposium, established in 2002, provides a forum for postdoctoral fellows; medical, dental and graduate students; post-baccalaureates; college and community college students (particularly for African-American, Hispanic/Latino and American Indian/Alaska Native individuals) to share their biomedical and health-related research activities through oral or poster presentations, to engage in discussions related to career development in the sciences, to exchange ideas and to expand their professional networks.

(www.mfdp.med.harvard.edu/med_grad/ness/index.htm)

Phospholipase D Inhibitors Block Binding to substrate Phosphatidylcholine Vesicles (POPC): A Novel Method to Quantify Free PLD Enzyme Using Polyacrylamide Gel Electrophoresis (PAGE)

Schaneque Barrows-Murphy, Phong Quang, Kimberly A. Stieglitz, PhD.

ABSTRACT

Hypothesis

The *Streptomyces Chromofuscus* phospholipase D (PLD) enzyme may be considered functionally similar to human GPI-PLD. Human PLDs are targets for drug discovery for cancer research. The enzyme catalyzes cleavage of phosphatidylcholine (PC) in bilayers to generate products phosphatidic acid (PA) and free choline. Binding of PLD can be enhanced by the addition of the product phosphatidic acid (PA). This allosteric activation by PA could involve a conformational change in the enzyme that alters PLD binding to phospholipid surfaces. Potent inhibitors of the PLD enzyme tested with soluble PC substrate, may block PLD enhanced vesicle binding to substrate phosphatidylcholine vesicles PC. These inhibitors may block the allosteric inhibition of PLD activity by PA product. An assay involving the intensity of the PLD bands on SDS-PAGE gels quantifying the amount.

Methods

An assay analyzing the intensity of the PLD bands on SDS-PAGE gels quantifying the amount of free PLD enzyme was developed. Methods utilized include preparation of small unilamellar vesicles (SUVs), developing a micro-binding assay to isolate free enzyme, and quantitative analysis of PLD enzyme using a gel documentation system equipped with software to measure the intensities of the PLD protein bands on the gels. The intensity of the staining of the free PLD run on the experimental SDS-PAGE gel is compared with the standard gel which correlates specific intensities of known amounts of PLD on the control SDS-PAGE gel.

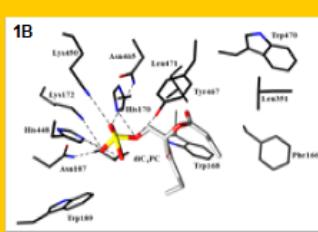
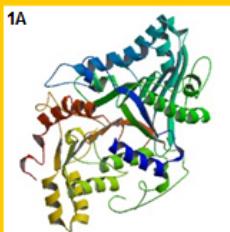


Figure 1: A) The structure of Phospholipase D a 57 kDa protein monomer B) PLD bound to synthetic product dIC,PA (after being soaked in synthetic short chain substrate dIC,PC) in the crystal structure from RC SB (PDB code 1V0Y)

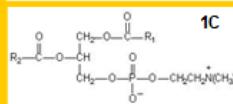
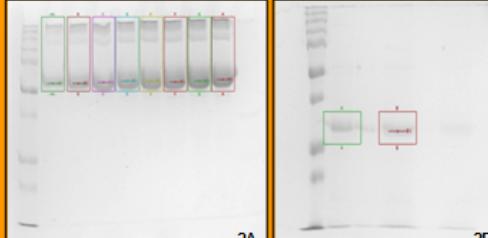


Figure 1C) The natural substrate of phospholipase D: Phosphatidylcholine. The reaction mechanism is a simple hydrolysis. Activated water (-OH) attacks the phosphate group and the P-O bond is cleaved.

Results

SDS-PAGE (12%) Control Gel for Protein Concentration Standard Curve



SDS-PAGE (12%) Example of "Unknown Concentration"



B SA Standard Curve for Determination of PLD (free enzyme) concentration

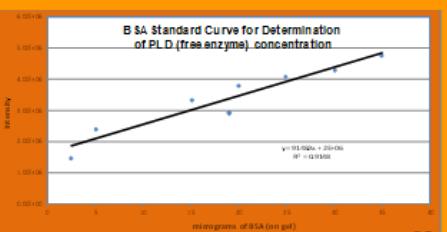
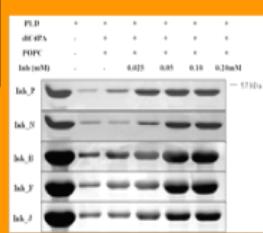


Figure 2: A) The 12% SDS-PAGE gel of bovine serum albumin (BSA) stained with coomassie blue. Lane 1 is markers, lanes 2-9 is 2.5, 5, 10, 15, 20, 25, 30 and 35 micrograms of BSA. Figure 2B shows an example of an unknown amount of free PLD fragment on a gel that did not bind PC vesicles. Using UVP software the volume of the intensity is determined to construct the standard curve shown in Figure 2C. The intensities from the bands in the gel in Figure 2B are plugged into the equation of the line to solve for X, the amount of micrograms of protein in the sample loaded.



Figure 3: UVP Bio-Imaging System used to scan, detect, and quantify PLD Protein.



Conclusion

The substrate vesicle binding assay with PLD simulates this secreted enzyme's ability to bind to target vesicles and cells to extract and then cleave substrate. The results obtained identify a new class of PLD enzyme inhibitors. These inhibitors may be important to inhibit vesicle secretory pathways of secreted PLD and cell signaling with cytoplasmic PLDs that are up-regulated in cancerous cells.

REFERENCES

1. Stieglitz, K.; Seaton, B.; Roberts, M. F. The Role of Interdomain Binding in the Activation of *Streptomyces chromofuscus* Phospholipase D by Phosphatidic Acid. *J. Biol. Chem.* 1998, 274, 36387-36394.
2. Stieglitz, K.; Seaton, B.; Roberts, M. F. Binding of Proteolytically Processed Phospholipase D from *Streptomyces Chromofuscus* to Phosphatidylcholine Membranes Facilitates Vesicle Aggregation and Fusion. *Biochemistry* 2001, 40(48), 13664-13665.
3. Kulkarni, A.; Quang, Phong; Curry, Victoria; Zhou, Wahlong; Baffoe, Jonathan; Toro, Bela; Elling, K. L. 1,3-disubstituted 4-aminopyrazolo [3,4-d] pyrimidines, a new class of potent inhibitors for Phospholipase D. Submitted to *ChemMedChem* April 2012.



ROXBURY
COMMUNITY
COLLEGE

Movie Premier

The award-winning film, "Kinyarwanda," will have its Boston premier in the Media Arts Building on Thursday, April 12th. There will be a post-movie discussion with Rev. Dr. Gloria White-Hammond; Dr. Michelle

Cromwell; Darren Dean, Producer; and Alrick Brown, Director/Writer. Alrick Brown was named one of the 25 new faces of independent films by Filmmaker Magazine. Click [HERE](#) for additional information and to purchase tickets.

RCC Tote Bags

Jump into Spring with a special hand crafted bag designed exclusively for Roxbury Community College. The bags, which come with blue or black accents, will be sold at the purchase price of \$20 each. All proceeds will support alumni programs



How can you get one?
Bags can be purchased at the Development Office. You can stop by Room 306 in the Administration Building or you can call 617-541-5394. Checks should be made payable to Roxbury Community College Foundation. If you would like to pay by credit card, please go to the RCC Business Office.

**In commemoration of Genocide Awareness month
cooperative metropolitan ministries presents
The Boston Premiere of**

KINYARWANDA

April 12 6-9pm

**@ THE ROXBURY COMMUNITY COLLEGE
MEDIA ARTS CENTER
1234 Columbus Avenue, Roxbury, MA**

**Purchase tickets at A Nubian Notion, Inc.
or at kinyarwandafilm.eventbrite.com
for more info contact info@coopmet.org**

Tickets

\$12 at door

\$10 in advance

\$8 for seniors & college students

\$7 for groups of 10 or more

Featuring
Writer & Director: Alrick Brown
Producer: Darren Dean
Dialogue with:
Rev. Dr. Gloria White-Hammond
Dr. Michelle Cromwell

Co-Sponsored by:
The Butterfly Cafe, Mission Hill
MA Coalition to save Darfur
Church on The Hill &

600 Multicultural Village Inc.
TOUCH 106.1 FM
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Items for "The Weekly"

If you have something of interest that you would like to share with the college community, please submit it (by Tuesday afternoon) to Jacqueline Lynch at jlynch1@rcc.mass.edu